Remarks/Arguments

35 U.S.C. §103

Claims 1-3 and 5-9, stand rejected under 35 U.S.C. §103(a) as being unpatentable over Louzir (U.S. Patent No. 6,798,386 B1).

It is respectfully asserted that Louzir fails to disclose an:

> "antenna comprising a first feed-line coupled in a zone of the slot forming first open circuit and a second feed-line placed at an angle 45 degrees from said first feed-line, said second feed line being coupled in a zone of the slot forming a first short-circuit,"

as described in currently amended claim 1.

Among the problems addressed by the present invention is that the signals transmitted by a transmitter reach a receiver by following a plurality of paths resulting from the many reflections of the signal on the walls, furniture or similar elements. When combined at the level of a receiver, the phase differences between the different rays having taken paths of different lengths gives rise to an interference figure that can cause fading or a significant degradation in the signal. The location of the fading changes over time according to the modifications in the environment such as the presence of new objects or the movement of people. The fading due to multiple paths can lead to significant degradations both at the level of the quality of the signal received and at the level of the system performances.

To address this problem, the subject application discloses, as one embodiment, a planar antenna with diversity of radiation realised on a substrate comprising a slot of closed shape dimensioned to operate on a mode higher than a fundamental mode. At least one feed-line is coupled to the slot according to a line-slot transition. The antenna comprises a first feed-line coupled in a zone of the slot forming first open circuit and a second feed-line placed at an angle 45 degrees from the first feed-line. The second feed line is coupled in a zone of the slot forming a first short-circuit. The antenna further comprises means for

selecting for an access either the first feed line, producing in the directions of main radiation a first radiation pattern, or the second feed line, producing in the directions of main radiation a second radiation pattern, the second radiation pattern being complementary of the first radiation pattern.

Louzir teaches "a device for receiving signals transmitted by N satellites, the said device comprising means for focusing the beams corresponding to the said signals. The device comprises several source antennas, the said source antennas being printed antennas made on a single substrate." (Louzir Abstract) In the embodiment shown in Louzir Figure 3, the "device comprises a dielectric substrate 17 which supports three annular-slot antennae 3a, 3b, 3c etched directly on the substrate. These antennae are excited by microstrip lines 4a to 4f in a manner described later. The centres of the slots are positioned on the substrate in such a way that the distances which separate them are equal to the distances which separate the focal points F3, F4 and F5." (Louzir, column 3, lines 55-61)

Among other aspects of the present claims, Louzir does not describe an arrangement where first and second feed lines are placed at a 45-degree angle. Instead, in Louzir, the slot antenna is fed by two perpendicular microstrip lines to obtain polarization diversity, not the diversity of radiation provided by the present invention. (Louzir, figure 3) Thus, it is respectfully submitted that Louzir fails to disclose an "antenna comprising a first feed-line coupled in a zone of the slot forming first open circuit and a second feed-line placed at an angle 45 degrees from said first feed-line, said second feed line being coupled in a zone of the slot forming a first short-circuit," as described in currently amended claim 1.

In view of the above remarks and amendments to the claims, it is respectfully submitted that there is no 35 USC 112 enabling disclosure provided by Louzir that makes the present invention as claimed in currently amended claim 1 unpatentable. Since dependent claims 2-3 and 5-9 are dependent from allowable independent claim 1, it is submitted that they too are allowable for at least the same reasons that their respective independent claims are allowable. Thus, it is further respectfully submitted that this rejection has been satisfied and should be withdrawn.

Having fully addressed the Examiner's rejections it is believed that, in view of the preceding amendments and remarks, this application stands in condition for allowance. Accordingly then, reconsideration and allowance are respectfully solicited. If, however, the Examiner is of the opinion that such action cannot be taken, the Examiner is invited to contact the applicant's representative at (609) 734-6804, so that a mutually convenient date and time for a telephonic interview may be scheduled.

No fee is believed due. However, if a fee is due, please charge the additional fee to Deposit Account 07-0832.

Respectfully submitted,

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